

REMARKS

In summary, claims 14, 15, and 17-28 are pending. Claims 14 and 15 are rejected under 35 U.S.C. §103. Claims 17-28 previously have been withdrawn from consideration. Applicant respectfully traverses the rejection of claims 14 and 15. No claims are amended. No new matter is added.

Telephone Conversation With Examiner

Applicant's representative thanks Examiner Chuo for the telephone conversation conducted on March 21, 2007. During the conversation, Applicant's representative explained why the cited references are not compatible and that combining the references would render at least one of the references inoperable and/or unsatisfactory for its intended purpose. Examiner Chuo stated that he would keep this in mind when considering the arguments provided herein. Applicant's representative encouraged Examiner Chuo to call Applicant's representative with any questions that may arise during examination of the instant response.

Rejection Of Claims Under 35 U.S.C. §103

Claims 14 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,057,051, issued to Uchida *et al.* (hereinafter referred to as "Uchida *et al.*") in view of U.S. Patent No. 6,093,500, issued to Margiott *et al.* (hereinafter referred to as "Margiott *et al.*"), and further in view of U.S. Patent Application Publication No. 2002/0095247, in the name of Ding *et al.* (hereinafter referred to as "Ding *et al.*").

Uchida *et al.*, Margiott *et al.*, and Ding *et al.* whether considered separately or together, neither disclose nor suggest Applicant's claimed invention. Further, combination of Uchida *et al.*, Margiott *et al.*, and Ding *et al.* would render the prior art unsatisfactory for its intended purpose and change its principle of operation.

Uchida *et al.*, which has been addressed in a previous Office Action response, teaches a miniaturized polymer electrolyte fuel cell using hydrogen as fuel and air as an oxidant to power portable electronic equipment. (Abstract; Column 1, lines 8-10).

Margiott *et al.*, which also has been addressed in a previous Office Action response, teaches a method and apparatus for changing the state of operation of a fuel cell, such as starting the fuel cell up or shutting the fuel cell down. An idle load is applied to the fuel cell when the cell temperature is between about normal operating temperature and a transition temperature, and fuel and oxidizer are supplied to the fuel cell commensurate with the power delivered to the idle load. Below the transition temperature, purging/passivation procedures known in the art can be followed, and an open or dummy load applied to the fuel cell. At normal operating temperature or above a service load is applied to the fuel cell. (Abstract).

Ding *et al.* is directed to hybrid electric vehicles. Ding *et al.* teaches a method and system to control a combined fuel cell and battery pack power system to produce an efficient and cost-effective powertrain with acceptable drivability for hybrid electric vehicles. (Paragraph 0002).

Uchida *et al.*, Margiott *et al.*, and Ding *et al.* whether considered separately or together, neither disclose nor suggest several of Applicant's claim limitations. For example, Uchida *et al.*, Margiott *et al.*, and Ding *et al.* whether considered separately or together, neither disclose nor suggest a "fuel cell...configured to...generate electrical power for the processing system; and...a data bus for providing said fuel cell data from said fuel cell to said processing system," as recited in claim 14.

In the instant Office Action, at pages 2 and 3, it is asserted that the combination of Uchida *et al.* and Margiott *et al.* teach a "fuel cell...configured to...generate electrical power for the processing system; and...a data bus for providing said fuel cell data from said fuel cell to said processing system." Specifically, it is asserted that Margiott *et al.* "discloses a data bus '80' that connects the controller '56' to the processor '62' and transmits fuel cell data from the controller and other devices that part of the fuel cell system to the processor...."

Applicant respectfully disagrees with this assertion. In the instant Office Action, the processor 62 taught in Margiott *et al.* is equated with the claimed processing system. However, in contrast to teaching a "fuel cell...configured to...generate electrical power for the processing system," Margiott *et al.* teaches a processor 62 that controls a fuel cell. This is

evidenced throughout Margiott *et al.*, in which almost every mention of the processor 62 refers to control of the fuel cell thereby. “[A] fuel cell system includes...a processor for controlling the transition of the fuel cell...” (Emphasis Added) (Column 3, lines 32-42). “The processor 62 can communicate with and control the controller 56, and individual switches 84a, 84b and 84c, and/or power conditioner 83.” (Emphasis Added) (Column 6, lines 14-16). “As shown in FIG. 1, the processor 62 can also control the purge/passivation system 93.” (Emphasis Added) (Column 6, lines 23-24). “The individual switches are controlled, such as by the processor 62 ...” (Emphasis Added) (Column 5, lines 62-63). “The cooling system is controlled, either manually or by a processor, such as the processor 62 ...” (Emphasis Added) (Column 6, lines 53-54). Thus, Margiott *et al.* does not teach a “fuel cell...configured to...generate electrical power for the processing system; and...a data bus for providing said fuel cell data from said fuel cell to said processing system.”

Further, nowhere does Uchida *et al.*, Margiott *et al.*, and Ding *et al.* disclose or suggest “a processing system comprising a fuel indicator,” as recited in claim 14.

A prima facie case of obviousness has not been established because there is no clear articulation of motivation or suggestion to combine Uchida *et al.*, Margiott *et al.*, and Ding *et al.* In a recent case (*In Re Kahn*, 441 F.3d 9787 (Fed. Cir. 2006)), the Federal Circuit elaborated on the existing “motivation-suggestion-teaching” requirement for combining references. The Court emphasized that motivation or suggestion to combine or modify must be explained. “[S]ome rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct” must be provided. *Id.* at 987. On page 4 of the instant Office Action, it is recited that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Uchida/Margiott fuel cell system to include a battery configured to provide power to the fuel cell and a fuel cell configured to recharge the battery in order to more efficiently operate the fuel cell system by utilize a battery to assist in the start-up of the fuel cell system and then recharging the battery by using power generated by the fuel cell system.” Applicant respectfully submits that this statement is conclusory, and does not articulate how one of ordinary skill in the art at the time of Applicant’s invention would have been motivated to combine the references to obtain

Applicant's claimed invention. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* at 988.

For example, Uchida *et al.* is directed to a miniaturized fuel cell assembly and Ding *et al.* is directed to a combined fuel cell and battery pack for hybrid vehicles. The systems taught in Uchida *et al.* and Ding *et al.* are not compatible. The size and power requirements of each system differ vastly. Thus, it is not clear why one of ordinary skill in the art at the time Applicant's invention was made would be motivated to combine the incompatible systems taught in Uchida *et al.* and Ding *et al.* Further, it is not clear how one of ordinary skill in the art at the time Applicant's invention was made would combine the incompatible systems taught in Uchida *et al.* and Ding *et al.*

There is no suggestion or motivation to combine Uchida *et al.*, Margiott *et al.*, and Ding *et al.* because modifying Uchida *et al.* and/or Margiott *et al.* in accordance with Ding *et al.* would render at least Uchida *et al.* unsatisfactory for its intended purpose. In accordance with MPEP §2143.01 Part V, a prima facie case of obviousness can not be established if the proposed modification renders the prior art unsatisfactory for its intended purpose. "If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." (MPEP §2143.01 Part V). In addition, MPEP §2143.01 Part VI states that for a prima facie case of obviousness under 35 USC §103, the proposed modification cannot change the principle of operation of a reference. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." (MPEP §2143.01 Part VI).

The intended purpose of Uchida *et al.* is a "miniaturized fuel cell assembly to power portable electronic equipment..." (Abstract). Uchida *et al.* explains that a problem with "conventional portable fuel cells" is that "construction for achieving compactness has not been taken into consideration." (Column 1, lines 47-51; *Also see* Column 2, lines 40-44). Consequently, the object of Uchida *et al.* is to "provide a...fuel cell system...integrally

formed into a single package to be microminiaturized.” (Column 2, line 67-Column 3, line 3). In contrast, Ding *et al.* is directed to a combined fuel cell and battery pack power system for hybrid electric vehicles. The power requirements for portable electronic equipment differ greatly from the power requirements of a hybrid vehicle. In contrast to starting up portable electronic equipment, Ding *et al.* discloses that “[c]old startup remains a significant challenge.” (Paragraph 0008).

Applicant respectfully submits that modifying Uchida *et al.*’s miniaturized fuel cell assembly to incorporate Ding *et al.*’s fuel cell and battery pack would render Uchida *et al.* unsatisfactory for its intended purpose. Uchida *et al.*’s miniaturized fuel cell assembly could not handle the power requirements of Ding *et al.*’s fuel cell and battery pack. Further, Uchida *et al.*’s miniaturized fuel cell assembly would most likely be damaged by attempting to provide the power necessary for cold start up of a hybrid vehicle as required by Ding *et al.*’s fuel cell and battery pack. Thus, per MPEP §2143.01 Part V, because modifying Uchida *et al.* in accordance with Ding *et al.* would render Uchida *et al.* unsatisfactory for its intended purpose, Uchida *et al.* can not be combined with Ding *et al.* to establish a prima facie case of obviousness. Also, per MPEP §2143.01 Part VI, Uchida *et al.* because modifying Uchida *et al.* in accordance with Ding *et al.* would change the principle of operation of Uchida *et al.*, Uchida *et al.* can not be combined with Ding *et al.* to establish a prima facie case of obviousness.

In view of the forgoing arguments and remarks, it is requested that the rejection, under 35 U.S.C. § 103, of claims 14 and 15, be reconsidered and withdrawn.

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**PATENT
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PROCEDURE PURSUANT TO
37 CFR § 1.116**

CONCLUSION

It is requested that the forgoing arguments and remarks be entered, and in view thereof, it is respectfully submitted that this application is in condition for allowance. Reconsideration of this application and an early Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow this application for any reason, the Examiner is encouraged to contact the undersigned attorney to discuss resolution of any remaining issues.

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